STATEMENT OF WORK

for the

PAWSS PROJECT's

SYSTEM INTEGRATION CONTRACTOR

25 August 1997

1.0 SCOPE

The System Integration Contractor (referred to as the SIC, or Contractor) will plan, modify their off-the-shelf Vessel Traffic System (VTS) design, integrate, install, test, support, train, and maintain the Ports and Waterways Safety System (PAWSS) Project VTS System. This effort will be accomplished under a two phase approach.

1.1 PHASE 1

In Phase 1, the Contractor shall receive two Task Orders:

Task Order #1	Install a system at the Gretna Light facility in New Orleans, LA (NOLA) for use in evaluating DSC/AIS as a primary source of vessel position information in VTS systems
Task Order #2	Design the VTC for New Orleans and provide documentation to permit build-out of the Government provided facility in preparation for installation of a VTS System.

1.2 PHASE 2

In Phase 2, Task Orders will be issued for design modification, if necessary, and installation in new or non-PAWSS Project ports and provide documentation, training, and maintenance of the system. The first Task Order in this phase will be:

Task Order #3	Install a VTS system in New Orleans, Louisiana (NOLA) moving the equipment previously provided at the Gretna Light facility to the VTC and adding the necessary equipment to provide a full function VTS system in compliance with the PAWSS Project VTS System Specification.
Future Task Orders	Install PAWSS Project VTS systems in other ports.

The PAWSS Project VTS system will be based on an existing off-the-shelf VTS system. Attention will be focused on flexibility and adaptability aspects and the ability to increase capacity and permit the addition of new functions, when appropriate. The Contractor will interact with the

Coast Guard and a Systems Engineer (SE) and Independent Verification and Validation (IV&V) Contractor.

2.0 APPLICABLE DOCUMENTS

A list of the documents referenced in this SOW is presented below. Compliance with these documents or their commercial equivalents is required to the degree specified within this SOW.

2.1 COAST GUARD DOCUMENTS

	PAWSS Project Configuration Management Plan (CMP)	18 July 1997
	PAWSS Project Integrated Logistics Support Plan (ILSP)	3 July 1997)
	PAWSS Project Requirements Traceability Matrix	(TBS)
	PAWSS Project VTS System Specification	2 June 1997
1721798	System Interface Design Document for the Surface Search Radar Program	1 July 1997
TBD	Interface Requirements Specification for the Surface Search Radar	TBD
TBD	Radar Data Service Communication User Manual for the Surface Search Radar Program	1 July 1997
TBD	Interface Control Document for Voice and Data Communications to the PAWSS Baseline System at the Gretna Light Facility	???
	Test and Evaluation Master Plan (TEMP) for the Port and Waterways Safety System (PAWSS) Project	18 July 1997
TBD	Test Plan for DSC/AIS Evaluation	TBD

2.2 NON-GOVERNMENT DOCUMENTS

ISO 9000	Quality Management and Quality Assurance Standards	1991
ISO/IEC 12207	Information Technology - Software Life Cycle Processes	1995

3.0 REQUIREMENTS

This section describes the work the Contractor shall perform for Phase 1 (the system installed at the Gretna Light facility and the plans for build-out of the New Orleans VTC facility) and Phase 2 (integration, installation in the VTC, and support) of the PAWSS Project VTS system in selected ports. The Contractor shall provide all services and supplies necessary to perform this effort, except for Government Furnished Property (GFP) as specified in the Contract and in the Task Order.

3.1 PHASE 1 - BASELINE SYSTEM IMPLEMENTATION AND VTC DESIGN

3.1.1 Project Management

3.1.1.1 Project Management Planning

The Contractor shall develop a plan of action for managing the specific port-related work tasks for Phase 1. The Contractor shall document the plan for all active Task Orders in a single Management Plan (CDRL 001, *Contractor's Management Plan*). Planning activities shall include, as a minimum, risk management practices and mechanisms for controlling resources and schedule. The Management Plan shall include a Master Integrated Project for all active Task Orders. Changes to the Master Integrated Project Schedule shall not be made without Government approval. The Contractor shall implement, update, and maintain the Management Plan.

3.1.1.2 Project Management Reviews (PMR)

The Contractor shall conduct PMRs as required in the Task Orders. The PMRs shall be held at the Coast Guard Headquarters in Washington, D.C. except for the first PMR which shall be held in conjunction with the Design Review (see Section 3.1.5) at the Contractor's facility. Upon mutual agreement, a PMR may be held in NOLA. The PMRs shall cover all active Task Orders and shall be scheduled to occur at the time of significant events defined in the Task Orders (e.g., at the time of the 35% or 95% reviews for construction tasks, or when planning tests of the system).

3.1.1.2.1 Preparation

The Contractor shall submit an agenda for each PMR at least 5 days prior to the PMR. At the beginning of each PMR, the Contractor shall provide the attendees with hard copies of

all overhead transparencies and other materials that are to be presented during the review

3.1.1.2.2 Conduct

At each PMR, the Contractor shall report progress and work status to the Government and shall address: risk management areas and activities including the current Watchlist; any changes in the approaches presented in plans or foreseeable delays and associated schedule recovery actions; and any changes in the Contractor's and subcontractors' organizations.

3.1.1.2.3 Results

The Contractor shall record issues and action items that result from the review and shall assign responsibility for individual action items and the proposed schedule for action item resolution. The Contractor shall submit minutes of the PMR to complete the PMR documentation (CDRL 002, *Program Management Review Documentation*).

3.1.1.3 Monthly Progress Reports

The Contractor shall monitor and evaluate the PAWSS project activities on every active Task Order and report to the Government the project's Risk Watchlist as well as the technical and management status on a monthly basis (CDRL 003, *Monthly Status and Management Progress Report*).

3.1.2 Software Planning and design

The Contractor shall plan for any software adaptation necessary for the baseline system and integration activities that will occur during Phase 1, Baseline System Implementation and VTC Design.

3.1.2.1 Commercial/Government Off-The-Shelf Software

The Contractor shall provide a system that consists primarily of off-the-shelf software and minimizes new development software. The off-the-shelf software may be Commercial Off-The-Shelf (COTS), Government Off-The-Shelf (GOTS), or both.

3.1.2.2 New Software

The Contractor shall design any new software required to adapt the PAWSS Project VTS System for the Gretna Light facility DSC/AIS evaluations. All new software, whether used for linking existing routines or modifying existing code, shall be written in accordance with the Contractor's standard software development practices using ISO/IEC 12207

as a guide. The Contractor shall write all new software in accordance with the Contractor's software standard unless directed otherwise by Task Order.

3.1.3 Baseline System Implementation

3.1.3.1 Operational Segment

The VTS System Integration Contractor (SIC) shall install the basic system architecture with a single workstation at the Gretna Light facility in New Orleans. The purpose of this installation is to:

a. Test the ship-to-ship information exchange mode of the DSC/AIS system,

b. Test the ability of the system to accommodate a large number of DSC/AIS contacts in a ship-to-shore mode,

c. Test the ability of the DSC/AIS system to operate in a shore-to-ship mode,

d. Gather data to assist the Program Sponsor to determine staffing standards for this new mode of DSC/AIS watchstanding, and

e. Replace the existing radar at the Gretna Light facility with a radar meeting the requirements of the PAWSS Project VTS System Specification.

3.1.3.1.1 DSC/AIS Communications

The Coast Guard will upgrade the VHF communications along the Mississippi River to Digital Selective Calling (DSC) with AIS (referred to as DSC/AIS) to permit DSC/AIS testing to be accomplished. The Contractor shall provide the interface equipment at the Gretna Light Facility to receive data from the Coast Guard provided remote VHF radio and DSC/AIS/AIS equipment to incorporate DSC/AIS capability into the baseline system.

3.1.3.1.2 DSC/AIS Transponders

The Coast Guard will provide transponders to be placed on board vessels to perform the DSC/AIS tests. The Contractor will not be responsible for any ship installations or associated tasks, but shall be responsible for processing data received from these transponders via the DSC/AIS/AIS interface and evaluation of the performance.

3.1.3.1.3 Radar at Gretna Light Facility

The Contractor shall replace the existing radar at the Gretna Light facility with a radar meeting the requirements of the independent sensor in the PAWSS Project VTS System Specification. As an option, the Coast Guard may provide a Surface Search Radar (SSR) and its associated Radar Data Processor as GFE for the Contractor to install at the Gretna Light Facility in place of the Contractor supplied radar (see Section 2.1 for list of SSR interface documents). In either case, the Contractor may use the existing tower for mounting the radar, if desired.

3.1.3.2 Facilities Segment

The Contractor shall be responsible for the following items for the Facilities Segment.

3.1.3.2.1 Gretna Light Facility Layout

The Contractor shall develop the equipment layout for the Gretna Light Facility in accordance with the requirements of the PAWSS Project VTS Specification and Task Order #1. The layout shall show the location of the single workstation and the other system components installed in the operations area or in separate shelters beneath or near the Gretna Light Facility. The Contractor shall submit the design in the form of artist conceptual sketches, photographs, or drawings for presentation at the Design Review (see Section 3.1.5) for Coast Guard approval. The Contractor shall document site preparation requirements and the installation plan (CDRL 004, *Site Preparation Requirements and Installation Plan*).

3.1.3.2.2 Gretna Light Facility Installation

The Contractor shall install the necessary equipment for DSC/AIS testing in accordance with Task Order #1. Gretna Light is an operational facility and disruption of service from that facility shall be minimized. Equipment installation or other disrupting activities can only be accomplished with advanced agreement with the Coast Guard. Due to the limited space available in the facility, the Contractor shall plan on a maximum of two people, other than the Traffic Light Operator, being in the facility at any time that the light is in operational use.

The SIC shall be responsible for any facility modifications required at the Gretna Light Facility to install or house equipment and the new radar. Additional power and environmental control shall also be the responsibility of the SIC.

3.1.3.3 Support Segment

The Contractor shall design the support systems necessary to sustain the operational functions of the baseline system used for DSC/AIS testing in accordance with Task Order #1. At the Design Review (see Section 3.1.5), the Contractor shall describe the approach for maintaining the system at the Gretna Light Facility until the equipment is moved to the VTC.

3.1.4 Vessel Traffic Center (VTC) Layout

The Contractor shall develop the equipment layouts for the NOLA VTC in accordance with the requirements of the PAWSS Project VTS Specification and Task Order #2. The layouts shall indicate how the furnishings are positioned in the various areas and how the VTC operator's equipment and the equipment room equipment will fit within the areas provided. The Contractor shall submit these designs in the form of artist conceptual sketches, photographs, or drawings for presentation at the Baseline System and Facilities Layout Design Review (see Section 3.1.5) for Coast Guard approval. The floor plans shall allow for the inclusion of additional operational workstations in the event of an increase in the size of the NOLA VTS Area (VTSA) as described in the Task Order.

3.1.4.1 Vessel Traffic Center Construction

The actual construction of the build-out of the VTC for Phase 1 may be completed by the building owner or may be a separate Task Order to the SIC.

3.1.4.2 The Governor Nicholls Light Facility Layout

The Contractor shall develop the equipment layout for replacing the radar at the Governor Nicholls Light Facility in accordance with the requirements of the PAWSS Project VTS Specification and Task Order #2. The layout shall show the location of the radar and the radar processor and any building modifications necessary. The Contractor shall submit the design in the form of artist conceptual sketches, photographs, or drawings for presentation at the Design Review (see Section 3.1.5) for Coast Guard approval.

3.1.5 Design Review for the DSC/AIS Baseline System and Facilities Layout

The Contractor shall conduct a design review of the baseline system to be installed at the Gretna Light Facility, within 30 days after Task Order award. The design review shall demonstrate the optimization, completeness, cost effectiveness, and risk associated with system and segment

designs for the baseline system to be installed at the Gretna Light facility. The Contractor shall also present the facilities layouts for the two light facilities and the VTC. The Contractor shall discuss the modification required at the Gretna Light Facility and how that work would be accomplished and shall discuss the build-out requirements to be developed for the VTC and the Governor Nicholls Light Facilities.

3.1.5.1 Preparation

The Contractor shall submit an agenda for the design review to the Government 5 days before the review. The Contractor shall provide attendees with hard copies of all overhead transparencies and other materials to be presented during the design review (CDRL 005, *Design Review Documentation*).

3.1.5.2 Conduct

The design review shall include, but not be limited to, the following:

a. The Contractor shall review the radar replacement and baseline system integration requirements, including requirements for operations, maintenance, testing, on-the-job training, hardware, software, facilities, personnel, and preliminary logistics support considerations.

b. The Contractor shall present the baseline system operational concepts, design, and processing resources. The Contractor shall present the system design in terms of the HWCIs, CSCIs, and interfaces that comprise the COTS system and shall indicate the adaptations that are necessary for the baseline system for DSC/AIS evaluation at the Gretna Light facility.

c. The Contractor shall describe how the baseline system and the replacement radar will be installed at the Gretna Light facility without interfering, or with limited interference to the on-going operation of the light operator.

d. The Contractor shall describe the DSC/AIS test operator’s interaction with the baseline system and shall present the layouts of the operator’s equipment. The Contractor shall discuss the merits and rationale for the recommended approach.

e. The Contractor shall indicate plans for on-the-job training, and support during DSC/AIS operational

testing and for system maintenance during the evaluations of the DSC/AIS system operation and support during the testing and until the equipment is moved to the VTC under Task Order #3.

f. The Contractor shall present plans for the initial layout of the VTC and shall discuss the build-out that will be necessary by the Coast Guard (via the building owner) or under a separate Task Order to the SIC in order to provide a VTC facility that will appropriately house the PAWSS Project's VTS system for NOLA.

g. The Contractor shall present plans for replacing the radar at the Governor Nicholls Light Facility and shall discuss the installation of the equipment with minimum interference to the traffic light operator.

3.1.5.3 Results

The Contractor shall conduct an Executive Session at the end of the design review to review action items and their disposition and to provide an opportunity for preliminary responses to action items. The Contractor shall submit minutes of the design review session and any associated meetings that occur between Government and Contractor personnel to complete the design review documentation (CDRL 005, *Design Review Documentation*).

3.1.6 Training and Support During Testing

The Contractor shall support the Coast Guard by operating and maintaining the system during the Coast Guard DSC/AIS Baseline System Evaluation Tests. This will follow completion of the limited Development Tests and Evaluation (DT&E) testing to prove suitability to start Coast Guard DSC/AIS testing.

The Contractor shall train Coast Guard personnel in the use of the baseline system. The training shall be conducted on the equipment installed at the Gretna Light Facility during the period that the Contractor is supporting USCG DSC/AIS Baseline System Evaluation Testing. The Contractor shall prepare any training materials necessary to assist the Coast Guard watchstanders in operating the DSC/AIS Baseline System (CDRL 006, *Training Materials for DSC/AIS System Operation*).

3.1.7 Transition to VTC

The Contractor shall plan for the installation of the DSC/AIS baseline system into the NOLA VTC after its build-out. The shifting of the equipment from the Gretna Light Facility shall not interfere with the operation of the

traffic light operator, and shall not be initiated until the equivalent functions are available at the NOLA VTC. The Contractor shall develop a Baseline System Transition Plan for Government approval (CDRL 007, *Operational Transition Plan*).

3.2 PHASE 2 - PORT IMPLEMENTATION

When directed by the issuance of a Task Order, the Contractor shall perform the tasks necessary for:

(1) The installation of the PAWSS Project VTS capability at a port without an existing VTS,

(2) The expansion of a previously-installed PAWSS Project VTS capability,

(3) The retrofit of a non-PAWSS Project VTS port with PAWSS Project VTS capability,

(4) The installation of enhancements in ports with previously-installed PAWSS Project VTS capability, or

(5) Providing support, training, or maintenance.

This section and all of its subsections are applicable to all Phase 2 efforts.

The Government will provide the Contractor with the Vessel Traffic Service Area (VTSA) to be covered by the new PAWSS Project VTS capability and the critical surveillance areas.

3.2.1 Project Management

The Contractor shall update the Management Plan (CDRL 001, *Contractor's Management Plan*) as necessary to reflect all active Task Orders (see also Section 3.1.1). The Contractor shall participate in meetings of the various teams, boards, and working groups, as requested. These groups include the Integrated Logistics Support Management Team (ILSMT), the Test Management Oversight Team (TMOT), the Configuration Control Board, the Site Acquisition Teams (SATs), and the Risk Management Steering Group.

3.2.1.1 Project Schedule

The Contractor shall develop detailed schedules for each Task Order and update the Project Schedule in the Management Plan to include these schedules (see Section 3.1.1.1) (CDRL 001, *Contractor's Management Plan*). Changes to the Project Schedule shall not be made without Government approval.

3.2.1.2 Project Management Reviews (PMR)

The Contractor shall conduct PMRs on all active Task Orders, at a common PMR meeting, as required by the Task Orders. The Contractor shall conduct these PMRs at least once quarterly. The Government will notify the Contractor of the dates for reviews at least two weeks prior to the date of the meeting. Unless otherwise approved by the Government, these reviews shall alternate between the Contractor's facility and Coast Guard Headquarters. The review shall be scheduled to occur at the time of significant events defined in the Task Orders (e.g., at the time of the 35% or 95% reviews for construction tasks, or when planning tests of the system).

3.2.1.2.1 Preparation

The Contractor shall submit the agenda for the PMR 5 days prior to the PMR. The Contractor shall provide the attendees with hard copies of all overhead transparencies and other materials that are to be presented during the review.

3.2.1.2.2 Conduct

At each PMR, the Contractor shall report progress and work status to the Government and shall address: risk management areas and activities including the current Watchlist; any changes in the approaches presented in plans or foreseeable delays and associated schedule recovery actions; and any changes in the Contractor's and subcontractors' organizations.

3.2.1.2.3 Results

The Contractor shall record issues and action items that result from the review and shall assign responsibility for individual action items and the proposed schedule for action item resolution. The Contractor shall submit minutes of the PMR to complete the PMR documentation (CDRL 002, *Program Management Review Documentation*).

3.2.1.3 Monthly Progress Reports

The Contractor shall monitor and evaluate the PAWSS project activities on every active Task Order and report to the Government the project's technical and management status on a monthly basis (CDRL 003, *Monthly Status and Management Progress Report*.

3.2.2 Configuration Management (CM)

The Contractor shall provide and implement a Configuration Management Plan (CMP) for the PAWSS Project VTS system (CDRL 008, *Contractor's Configuration Management Plan*). The Contractor's CMP shall conform with the Government's PAWSS Project CMP. The Contractor shall maintain the system, following the procedures in the accepted CMP throughout the contract life.

3.2.2.1 Internal Configuration Management Program

The Contractor shall support Government Configuration Management (CM) and conduct an internal CM program in accordance the Contractor's Configuration Plan (CDRL 008, *Contractor's Configuration Management Plan*). Proposed changes to the Contractor's CMP shall be reviewed at technical reviews or PMRs. The Contractor's procedures shall be consistent with the Government's PAWSS Project CM procedures as provided in the Government's CMP Plan, to be supplied as GFI at the start of Phase 1.

3.2.2.2 Status Accounting

The Contractor shall identify, control, and audit the functional and physical characteristics of Government-approved configuration items (CIs) within the PAWSS program and shall implement status accounting procedures to meet the Government's need for information as defined in the Government's PAWSS Project CMP. The Contractor shall describe the organizations and procedures for executing these functions in the Contractor's CMP.

3.2.2.3 Configuration Identification

The Contractor shall be responsible for configuration identification. Configuration identification shall include the selection of CIs and documents, identified in the system, and determination of the types of configuration documentation required for each CI. In addition, it shall include the issuance of numbers and other identifiers affixed to the CIs and to the technical documentation that comprises the CIs' configuration documentation.

3.2.2.4 Baseline Control

The Contractor shall establish and control internal CM baselines for hardware, software, and interface control documentation that will be submitted to the Government for formal approval at the appropriate design review (see Section 3.2.2.4). The Contractor shall develop procedures for change and release control and shall recommend procedures for a formal Government approval process.

3.2.2.5 Change Control

The Contractor shall track Engineering Change Proposals (ECPs) initiated for proposed changes to the approved configuration documentation. The Contractor shall submit Class I ECPs (CDRL 009, *Engineering Change Proposal*) for Government approval and Class II ECPs for Government concurrence. Classification disagreements shall be referred to the Government for final decision. Concurrent with the preparation of an ECP, the Contractor shall prepare and submit for Government approval a Specification Change Notice (SCN) (CDRL 010, *Specification Change Notice*) for any specification that would require revision if the ECP is approved.

3.2.2.6 Version Description

All changes, after the initial version of each CSCI identified in the system software is baselined, shall be classified as either Class I or Class II changes. These changes shall be listed as such in the Version Description Document (VDD) (CDRL 011, *Version Description Document*) for every release of the CSCI. The VDD identifies all changes to the software source and object code for all active versions.

3.2.2.7 Deviation and Waiver

The Contractor shall submit Requests for Deviation (RFD) (CDRL 012, *Request for Deviation*) and Requests for Waiver (RFW) (CDRL 013, *Request for Waiver*), as required, for temporary departure from requirements that do not constitute a change to configuration documentation. RFDs and RFWs do not constitute permanent changes. Permanent changes require an ECP and an associated SCN.

3.2.2.8 Configuration Status Accounting System

The Contractor shall implement and maintain a Configuration Status Accounting System (CSAS) to record and report on the status of baselined System and any identified CIs. The recording and reporting shall include the information necessary to manage the hardware and software configuration throughout its life cycle. The Contractor shall use the CSAS to report the actual configuration identification of the items, types of warranties and maintenance agreements, process changes, change history, approved changes, implementation of approved changes, and audit action item status (CDRL 014, *Configuration Status Accounting Information*). The Contractor shall provide the Government with this system data for review upon request. The

Contractor shall turn over to the Government, all data at the end of the contract.

3.2.2.8.1 Master Library of Changes

The Contractor shall establish and maintain a master library for tracking, access control, and physical storage of ECPs, SCNs, RFDs, and RFWs, and shall ensure implementation of all approved changes.

3.2.2.9 Configuration Audit Plan

The Contractor shall support Government-conducted configuration audits. The Contractor shall provide a Configuration Audit Plan for each configuration audit appropriate for the type and scope of each audit (CDRL 015, *Configuration Audit Plan*).

3.2.2.10 Configuration Audits

The Contractor shall notify the Government when ready and shall prepare an agenda for each configuration audit. The Contractor shall identify and record discrepancies between the material and the requirements delineated in the applicable technical documents. The Contractor shall prepare and submit a Configuration Audit Summary Report at the conclusion of each functional and physical configuration audit (FCA and PCA) (CDRL 016, *FCA Configuration Audit Summary Report* and CDRL 017, *PCA Configuration Audit Summary Report).*

3.2.3 Risk Management Program

The Contractor shall plan and implement a risk management program that includes a continuing analysis of the risks associated with the cost, schedule, and technical parameters and describes the reduction of those risks to an acceptable level through effective management . The Contractor shall address risk analysis, risk reduction, and risk management. The Contractor shall document risk management activities and report progress to the Government in the Monthly Progress Reports (see Section 3.2.1.3).

3.2.3.1 Risk Analysis

This analysis shall include identification and assessment of risk; the likelihood of occurrence, evaluation of the impact of risk on cost, schedule, and technical performance; and the identification of alternatives to avoid or minimize risk.

3.2.3.2 Risk Reduction

This activity shall involve the selection of risk reduction alternatives, definition of courses of action to implement risk reduction alternatives, commitment of staff, and financial resources to support risk reduction actions.

3.2.3.3 Risk Management

This activity shall establish a procedure to monitor progress of risk management activities, and report results of the risk management program to the Government (see Section 3.2.1.3).

3.2.4 Reliability, Maintainability, And Availability (RMA)

The Contractor shall maintain an RMA Program. The Contractor shall ensure that the PAWSS Project VTS RMA characteristics presented in the Technical Proposal are not degraded during manufacturing and test.

3.2.4.1 RMA Predictions

The Contractor shall prepare, and update as appropriate, the system RMA predictions (CDRL 018, *Reliability, Maintainability, and Availability Predictions and Support Analysis)* for each port and present these predictions at the design review (see Section 3.2.5.3).

3.2.4.2 RMA data

The Contractor shall analyze the system's RMA data to isolate faults and determine weaknesses in the system. The Contractor shall present recommendations on the provisioning of spare parts philosophy and on system enhancements to improve RMA at a PMR (see Section 3.2.1.2) or at the technical review (see Section 3.2.5.3).

3.2.5 Implementation Functions

3.2.5.1 Preliminary Port Survey

Sites for the VTC, sensors, and communications equipment may be provided by the Government as GFE, or may be identified by the Contractor for lease by the Government. When directed by Task Order, the Contractor shall conduct a port survey to estimate the number of sites necessary, locate potential remote sites and a VTC location, and recommend a preliminary set of sites, hardware, and software for the port.

In selecting sites, the Contractor shall consider the availability of power, access, physical security,

environmental aspects, DSC/AIS and communications coverage, tower height, and sensor/antenna placement for optimum VTSA coverage, accuracy, availability, and cost. This survey shall include DSC/AIS and voice communications coverage analyses to assist in site selection, where appropriate. The Contractor shall submit the results in a Port/Site Survey Report (CDRL 019, *Port/Site Survey Report*).

When the Government selects the sites, the Contractor shall survey the sites and identify any anticipated performance deficiencies based on the PAWSS Project VTS requirements.

3.2.5.2 System Design

The Contractor shall modify the PAWSS Project VTS system design, if necessary, and shall develop and install the system in the port as directed by the Task Order. Task Orders may be for any of the port implementation types (new, expanded, retrofit, or enhanced).

3.2.5.2.1 Unique Function Assessment

The Contractor shall add any unique functions (required by the port characteristics) to the PAWSS Project VTS system design for each port as specified in the Task Order.

3.2.5.2.2 Port Specific System Description

All PAWSS Project VTS systems shall use the same configuration to the maximum extent possible. The Contractor shall document the detailed design by preparing a Port Specific System Description identifying all of the CIs, the quantities, the site locations, and complements of equipment, including version numbers, and all facilities documentation, to provide documentation for the entire port (CDRL 020, *Port Specific System Description*). The Port Specific System Description shall be used by the Contractor during the System Design Review for the port to describe any unique port functions. The Contractor shall update the Port Specific System Description when the system design has changed.

3.2.5.3 System Design Reviews (SDR)

The Contractor shall conduct SDRs as required, on the COTs implementation for the port’s system design and shall document the system and detailed design for review.

3.2.5.3.1 System Design Review (SDR)

The Contractor shall conduct an SDR on each port to demonstrate the optimization, completeness, cost effectiveness, and risk associated with system and segment

designs for each port. The Contractor shall conduct the SDR at the Contractor's facility.

3.2.5.3.1.1 Preparation

The Contractor shall submit an agenda for the review to the Government 5 days prior to the review. The Contractor shall provide hard copies of all overhead transparencies and other materials to be presented during the review to the SDR attendees.

3.2.5.3.1.2 Conduct

The Contractor shall conduct the SDR which shall include, but not be limited to, all site unique functions, coverage, and system level design changes (see Section 3.2.5.5).

3.2.5.3.1.3 Results

The Contractor shall submit minutes of all SDR sessions and any associated meetings that occur between Government and Contractor personnel to complete the Design Review Documentation. Minutes shall include a list of Government and Contractor action items resulting from the SDR, and the proposed schedule for action item resolution (CDRL 005, *Design Review Documentation: Agenda, Presentation materials, and Minutes*).

3.2.5.4 Plan Updates

The Contractor shall update and maintain the Management Plan (CDRL 001, *Contractor Management Plan*) and any other plans approved by the Government, as necessitated by the unique features of the new port.

3.2.5.5 Detailed System Design

The Contractor shall perform detailed system design for each port to ensure that all local requirements are fulfilled and that the appropriate equipment for sensor and communications coverage is provided. The Contractor shall update, as required, the system description provided in the Contractor's proposal, or previously delivered system description, and shall document the design in the Port Specific System Description (CDRL 020, *Port Specific System Description*).

3.2.5.5.1 Interface Control

The Contractor shall prepare interface control documents and shall maintain these documents during enhancements to the system.

3.2.5.5.2 Interface Control Working Group (ICWG)

The Contractor shall provide interface management and shall establish contract agreements with interfacing Contractors governing the conduct of interface control, where appropriate. The Contractor shall participate in the Government's Interface Control Working Group (ICWG). The Contractor representative to the ICWG shall be empowered to commit the Contractor to specific interface actions and agreements. When possible, ICWG members will be notified at least two weeks in advance of any meetings. The Contractor shall prepare and distribute the working group meeting agendas and minutes (CDRL 021, ***Working Group Agenda*** and ***Minutes***) and shall report Interface Control Management Data to the Government in the Monthly Progress Reports (see Section 3.2.1.3).

3.2.5.5.3 Hardware Configuration Items

The Contractor shall design, as necessary, and document the interfaces between HWCIs and between external equipment and HWCIs. The Contractor shall prepare the Interface Control Documents (ICD) defining the interfaces between the HWCIs (CDRL 022, ***Interface Control Document***).

3.2.5.5.4 Computer Software Configuration Items

The Contractor shall design, as necessary, and control the interfaces between CSCIs and shall document the CSCI interfaces in the ICD (CDRL 022, ***Interface Control Document***).

3.2.5.5.5 Requirements Traceability Matrix

The Contractor shall substantiate the PAWSS Project VTS system design and each Port Specific System design with a Requirements Traceability Matrix (RTM) (CDRL 023, ***Requirements Traceability Matrix***) that organizes, presents, and provides comprehensive rationale regarding the relationship between requirements and capabilities. The Contractor shall demonstrate that each requirement has been implemented as a capability in the design. All requirements will be identified in a Task Order and in the PAWSS Project VTS System Specification through the use of the verb "shall." The Contractor shall use the RTM to trace between (a) the most detailed, current design documentation, and (b) the Task Order and PAWSS Project VTS System Specification. The Contractor shall update and resubmit the RTM for approval whenever the system design is changed.

3.2.5.6 System Segments

3.2.5.6.1 Operational Segment

The Contractor shall develop the Operational Segment of the PAWSS Project VTS system in accordance with the PAWSS Project VTS Specification. The Contractor shall also include the following items.

3.2.5.6.1.1 DSC/AIS Equipment

The Contractor shall incorporate into the design any Government furnished DSC/AIS equipment identified in the Task Order, and shall provide any additional DSC/AIS equipment necessary to meet the requirements of the PAWSS Project VTS System Specification.

3.2.5.6.1.2 Government Sensors

The Contractor shall incorporate into the design any Government furnished sensors and other equipment identified in the Task Order. The Contractor shall provide any additional sensors necessary to meet the requirements of the PAWSS project VTS system specification.

3.2.5.6.1.3 Communications Equipment

The Contractor shall develop the Communications portion of the PAWSS Project VTS operational segment in accordance with the PAWSS Project VTS Specification. The Contractor shall also include the following items.

3.2.5.6.1.3.1 Existing Equipment And Facilities

The Contractor shall evaluate for usability the equipment, including radios and the frequencies on which they operate, as identified in the Task Order, and facilities (e.g., towers, buildings, power) already in place at ports with existing VTS equipment or facilities. The Contractor shall recommend the use of existing communications equipment and facilities, where appropriate, and shall provide those necessary to supplement them, to meet the needs of the PAWSS Project VTS system.

3.2.5.6.1.3.2 Communications/Network plans

The Contractor shall design a communications system and prepare the Communications/Network Plan(s) for each port and submit them to the Government for approval (CDRL 024, *Communications Network Plan*).

3.2.5.6.1.3.3 Telecommunications Services Requests (TSR)

All non-radio communications services will be acquired and maintained through Government contracts. The Contractor shall prepare TSRs (CDRL 025, *Telecommunications Service Request*) for feeder landlines and supporting documentation needed by the Government to procure, install, and maintain the communications services required by the Contractor's design. Each feeder TSR, requesting a specific service, shall include the technical, performance, and service demarcation requirements of the service.

3.2.5.6.2 Facilities Segment

The Contractor shall plan for the installation and maintenance of the Facilities Segment.

3.2.5.6.2.1 Site Preparation Requirements

The Contractor shall prepare a Site Preparation Requirements and Installation Plan which discussed each site at a port (CDRL 004, *Site Preparation Requirements and Installation Plan*).

3.2.5.6.2.2 Environmental Planning

When directed by Task Order, the Contractor shall identify the need for, and prepare the necessary environmental documents including environmental assessments (EA), environmental impact statements (EISs), Findings of No Significant Impact (FONSIs), and other associated documents required by Federal, State, or Local authorities to install/construct on the proposed sites identified in the Task Order (CDRL 026, *Environmental* Documentation).

3.2.5.6.2.3 Remote Towers And Shelters

The Contractor shall plan and construct towers (including foundations, as necessary) and shelters for operation and maintenance of equipment at remote locations in accordance with the PAWSS Project VTS Specification and any applicable local regulations. The Contractor shall be responsible for selecting the proper tower design and height to prevent vessel and terrain screening; installing equipment, power, and remote interfaces to the sites; and providing physical access, physical security, and maintenance. The Contractor shall document and submit the design of these towers, buildings, and other structures to the Government for approval (CDRL 027, *Remote Site Structure Documentation*).

3.2.5.6.2.4 VTC Facilities

The Contractor shall locate a facility for housing each VTC, unless the Task Order specifies the location. The Contractor shall design a VTC facility to meet the requirements of the PAWSS Project VTS Specification and any applicable local regulations. The Contractor shall design the equipment layout, area furnishings, communications, power, lighting, and HVAC within the VTC.

3.2.5.6.3 Support Segment

3.2.5.6.3.1 Test Bed

The Contractor shall design a PAWSS Project VTS system test bed at the Contractor's facility in accordance with the PAWSS Project VTS Specification, if required by Task Order. The Contractor shall include the necessary equipment to support a minimum of two VTC operators in the test bed. The design shall be documented in the Port Specific Design Description (CDRL 020, *Port Specific Design* Description) and the equipment layout shall be provided in the Site Preparation and Installation Plans (CDRL 004, *Site Preparation Requirements and Installation Plan*).

3.2.5.6.3.2 Training

The Contractor shall provide hands-on equipment operations training for Government personnel such as (1) VTC operators and supervisors; (2) system administrators; and (4)instructors for each course. Training shall be in accordance with standard commercial practices. The Contractor shall prepare a detailed Training Plan (CDRL 028, *Training Plan*). The plan shall include the schedule and locations of all training, instructor qualifications, and details on how training will be conducted for the VTS as specified in the Task Order. The Contractor shall prepare training manuals (CDRL 029, *Training Manuals*) and conduct the training using the approved training manuals. The Contractor shall provide the instructors and any tools, special fixtures, and facilities needed. All tools, special fixtures and equipment, as appropriate, shall become the property of the Government.

3.2.5.6.3.3 Maintenance

The Contractor shall plan for the maintenance of the equipment in each port after acceptance of the PAWSS Project VTS system installed under the Task Order.

3.2.5.6.3.3.1 Integrated Support Plan

The Contractor shall plan and prepare an Integrated Support Plan (ISP) to reflect the design and support concepts, support facilities, spares, maintenance philosophy, and preventive maintenance schedule (CDRL 030, *Integrated Support Plan (ISP)*)) The ISP shall conform to the Government's Integrated Logistics Support Plan (ILSP) which will be provided as GFI at the start of Phase 1.

3.2.5.6.3.3.2 Maintenance Schedule

The Contractor shall furnish to the Government a Planned Maintenance Schedule (CDRL 031, *Planned Maintenance Schedule*) that lists all weekly, monthly, quarterly, and annual maintenance to be performed at each port and at the test bed and all scheduled down time.

3.2.5.6.3.3.3 Preventive Maintenance

The Contractor shall perform preventive maintenance on equipment installed at each port and at the test bed in accordance with the approved ISP and the Maintenance Schedule.

3.2.5.6.3.3.4 Maintenance Transition Plan

The Contractor shall prepare a plan for transitioning maintenance from the Contractor to the Coast Guard or a third party (CDRL 032, *Maintenance Transition Plan*). The plan shall reference appropriate delivered documents and suggest any needed training or other information necessary to allow the maintenance to transition to the Coast Guard or a third party and still permit the Coast Guard to retain the operational availability of the system.

3.2.5.6.3.4 Engineering Drawings

The Contractor shall provide all as-built design and maintenance documentation and drawings necessary such that the Government or a third party could maintain Contractor supplied equipment delivered as part of the PAWSS Project VTS system. The documentation shall be in the English language. Electronic copies of all documents and drawings, when available, shall also be provided. Documents are preferred in Continuous Acquisition and Life-Cycle Support (CALS) compliant format, where available. Existing documents and drawings will be acceptable for COTS/GOTS equipment. System level documentation and drawings shall be required (CDRL 033, *Engineering Drawings*).

3.2.5.6.3.5 Technical Manuals

The Contractor shall provide the following documents using their standard commercial documentation, to the maximum extent possible: (1) System Technical Manual (CDRL 034, *System Technical Manual*), which may be supplemented with Subsystem Technical Manuals, if necessary; (2) Equipment Technical Manuals (CDRL 035, *Equipment Technical Manuals*) where available, or as directed by Task Order to supplement the System Technical Manual; and (3) Software User's Manual (CDRL 036, *Software User's Manual*). Documents are preferred in CALS compliant format , where available. All documents shall be in the English language.

3.2.5.7 System Installation

3.2.5.7.1 Office space

The Contractor shall provide access to an office, telephone, and facsimile service at the Contractor's facility for Government's use, when requested by the Government. The Government will provide the Contractor with at least one week advance notice of need.

3.2.5.7.2 Remote Site Construction

The Contractor shall perform all work to implement remote sites in accordance with the approved Site Preparation Requirements and Installation Plan for the port (see Section 3.2.5.6.2.3).

3.2.5.7.3 VTC Construction

The Contractor shall perform all work, including renovation, in accordance with the approved Site Preparation Requirements and Installation Plan for the port (see Section 3.2.5.6.2.4), unless otherwise specified by Task Order.

3.2.5.7.4 System Installation

The Contractor shall implement the port system specified by Task Order. The Contractor procure and install equipment, and interconnect all equipment between the remote sites, external systems, and VTC at each port (see Section 3.2.5.2).

3.2.5.7.5 Test Bed

The Contractor shall implement the test bed as specified in the PAWSS Project VTS Specification and the Task Order, and as described in the Contractor's system description (see Section 3.2.5.6.3.1).

3.2.5.8 Operational Transition Planning at Sites with VTSs

The Contractor shall plan for the installation of the PAWSS Project VTS system without disruption to the operations of the existing VTS system until the new PAWSS Project VTS system is ready to assume full operation at the port. The Contractor shall develop an Operational Transition Plan for Government approval (CDRL 007, *Operational Transition Plan*).

3.2.5.9 Operations and Maintenance

3.2.5.9.1 Test Bed

As specified by Task Order, the Contractor shall operate and maintain the Test Bed.

3.2.5.9.2 Port System

As specified by Task Order, the Contractor shall maintain the PAWSS Project VTS System accepted by the Government in each port.

3.2.5.9.3 System Initialization Backup

The Contractor shall provide system software and startup software to permit reloading the system in the event that the system and initialization software at the VTC is damaged. This software shall be safeguarded from malicious or physical damage at a location local to the VTC. The location may be a Government or Contractor facility. The facility will not be considered as a port facility requiring drawings and other documentation, other than defining the location and procedure for accessing this recovery software in the Port Specific System Description (CDRL 020, *Port Specific System Description*).

3.2.5.9.4 System Performance Report

The Contractor shall collect data to generate System Performance Reports which shall include statistics on Equipment Availability (CDRL 037, *System Performance Report*).

3.2.5.10 Training Courses

As specified by Task Order, the Contractor shall conduct the courses, as required by Task Order, using the approved training manuals and shall provide the personnel, tools, special fixtures, and facilities.

3.2.5.11 Test Bed Transition

As specified by Task Order, the Contractor shall transition the test bed to a Government facility. The Contractor shall be responsible for all relocation tasks involved in dissembling, moving, and restoring the test bed to full operation.

4.0 QUALITY ASSURANCE REQUIREMENTS

4.1 PHASE 1 BASELINE SYSTEM QUALITY ASSURANCE TASKS

4.1.1 Quality Programs

The Contractor shall implement, manage, and maintain a Quality Program that complies with ISO 9000 and provide the Coast Guard with a copy of that plan (CDRL 038, *Quality System Plan*). The Contractor shall incorporate Government participation in quality assurance activities, including obtaining Government approval to proceed at appropriate test and evaluation events.

4.1.2 System Certification Prior to Installation

The Contractor shall perform equipment check-out and certify to the Government prior to shipping and installing the baseline system at the Gretna Light Facility that the integrated system meets the performance criteria required for the baseline system specifications and performing DSC/AIS evaluation.

4.1.3 Limited Developmental Test and Evaluation (DT&E)

The Contractor shall conduct limited DT&E at the Gretna Light Facility. The Contractor shall select methods to verify the conformance of the baseline system to demonstrate that it is capable of displaying and tracking DSC/AIS and radar reports and tracks. The Contractor shall prepare plans and procedures for the tests to be conducted to verify that the DSC/AIS portions of the system will collect and track the appropriate data and permit access to other system data as needed during the Coast Guard's evaluation of this method of monitoring activities on the waterway. The Contractor's test plan and test procedures (CDRL 039, Contractor's *Test Plan/Procedures*) shall ensure that the system is capable of allowing the Coast Guard to evaluate the DSC/AIS functions as presented in the Coast Guard's Test Plan for DSC/AIS Evaluation.

4.2 PHASE 2 QUALITY ASSURANCE TASKS

The Contractor shall continue to implement the Contractor's Quality Program.

4.2.1 Test Program

The Contractor shall plan, develop, implement, manage, and maintain a Test Program and deliver the plan to the Government (CDRL 039, Contractor's *Test Plan/Procedures*).

The plan shall document the complete phased sequence of all system performance tests and system acceptance tests.

4.2.2 Software Test Program

The Contractor shall plan, develop, implement, manage, and maintain a software test program for testing modifications to the software. The Contractor shall document the software test program in the Contractor's Test Plan (CDRL 039, Contractor's *Test Plan/Procedures*).

4.2.3 Conduct Of Verification Activities

The Contractor shall plan each verification activity by documenting clearly delineated roles and responsibilities, detailed procedures, and objective acceptance criteria. The Contractor shall conduct each verification activity in accordance with these plans, log all actions taken and other relevant information, and shall provide a report of the activity (CDRL 040*, Test/Inspection Reports*).

4.2.4 Verification of PAWSS Project System Performance

The Contractor shall verify that the PAWSS Project VTS System has the capability and capacity to perform in accordance with all contractual requirements. The verification of performance of each Port VTS System shall be completed in accordance with the applicable test event milestones contained in test plans and procedures (CDRL 039*, Test Plans/Procedures*) and the Master Integrated Program Schedule contained in the Contractor's Management Plan (CDRL 001, *Contractor's Management Plan*). Verification of system performance shall be conducted in two progressive stages: DT&E and Operational Test and Evaluation (OT&E). The Contractor shall be required to pass the DT&E tests which shall result in system acceptance. The Coast Guard will then perform OT&E testing, with support from the Contractor. Capabilities need only to be verified once, and subsequent verification activities and phases do not need to verify earlier capabilities. The Contractor shall provide the Government with the opportunity to witness every verification activity, and shall provide ten calendar days advance notice of each activity.

4.2.4.1 System Certification Prior to Installation

Prior to shipping a system to a port, the system shall be tested on the System Test Bed, if a test bed has been established. The simulation or emulation capabilities of the System Test Bed may be used instead of actual sensor and communications subsystems. Facility subsystems, such as power, climate control, and room sizes shall be

provisionally verified through replicating their form, fit, and function with the system under test at the test location. The Contractor shall perform equipment check-out and certify to the Government, prior to shipping and installing a system in a port, that the integrated system meets the performance criteria required by the VTS System Specification and the SOW.

4.2.4.2 Developmental Test and Evaluation (DT&E)

The Contractor shall perform DT&E testing at the port to verify the complete end-to-end, integrated functionality (hardware, software, and interface functionality) of each Port System as installed in each port. System acceptance shall occur when all DT&E testing has been satisfactorily completed and all deficiencies have been rectified. The Contractor shall first completely install and check out each Port System, then the Contractor shall functionally exercise the complete Port System (with the exception of radio transmission) for 48 continuous, failure-free hours prior to beginning the final phase of DT&E testing, System Acceptance Test and Evaluation. System Acceptance Test and Evaluation activities shall begin with Subsystem Tests and Evaluations of the communications, sensors, and facilities subsystems, in place, that are part of the Port System. Particular emphasis shall be placed on verifying that the installed Port System is capable of operating in the port environmental and electromagnetic environment during the entire elapsed time period between installation and acceptance. System Acceptance Test and Evaluation activity shall utilize actual, rather than simulated or emulated, sensor and communications input to the extent available, and shall test the overall operation of the PAWSS Project VTS system. As part of the end-to-end DT&E testing, the Contractor shall conduct an uninterrupted two week test for evaluating operational availability to ensure the system meets SOW and System Specification requirements. During this availability test, the system shall be fully loaded, receiving data from up to 100 DSC/AIS transponders and 200 targets per radar scan.

Replacement, Expansion, and Upgrade acceptance testing shall also be conducted, where appropriate, in accordance with the Operational Transition Plan (CDRL 007, *Operational Transition Plan*), to ensure that there is minimal interference between system evaluation and ongoing, existing VTS operations.

4.2.4.3 Government Oversight Of System Verification Activities

The Contractor shall permit and assist the Government and certain designated Associate Contractors, including the System Engineer and Independent Verification and Validation (IV&V) Contractor, and selected local maritime and port representatives to oversee all verification activities. The Contractor shall provide the necessary information, data, and physical access to facilities to allow oversight of verification tasks. Oversight will include the following:

a. Surveillance of activities to determine that practices, methods, and procedures contained in quality program plans are being properly applied.

b. Government product inspection of items prior to delivery to estimate their quality.

c. Government product inspection of delivered products to ensure compliance with verification requirements of the PAWSS Project VTS Specification.

d. IV&V of software under development. The Government will notify the Contractor at least five working days prior to any IV&V activity (if possible) and will state the purpose and objectives of the IV&V activity.

e. Operational test activities shall following system acceptance. This activity will occur while the Contractor is providing maintenance support of the system following acceptance.

4.3 Calibration And Maintenance Of Measurement And Test Equipment

The Contractor shall calibrate and maintain all (deliverable and non-deliverable) measurement and test equipment used in the verification of system performance. The Contractor shall prescribe calibration intervals for all such equipment, record the source of calibration, and monitor adherence to calibration schedules. The Contractor shall document the traceability of calibration actions to the National Institute of Standards and Technology and make this documentation available for Government review. The Contractor shall label all calibrated equipment with its last calibration date, its calibration due date, and the calibrator’s initials.

APPENDIX A: List of Acronyms

AIS Automatic Identification System

CALS Continuous Acquisition and Life-Cycle Support
CDRL Contract Data Requirements List
CI Configuration Item
CMP Configuration Management Plan
COTS Commercial Off-The-Shelf
CSAS Configuration Status Accounting System
CSCI Computer Software Configuration Item

DSC Digital Select Calling
DT&E Developmental Test and Evaluation

EA Environmental Assessment
ECP Engineering Change Proposal
EIS Environmental Impact Statement

FCA Functional Configuration Audit
FONSI Findings of No Significant Impact

GFE Government Furnished Equipment
GFI Government Furnished Information
GFP Government Furnished Property
GOTS Government Off-The-Shelf

HWCI Hardware Configuration Item

ICD Interface Control Document
ICWG Interface Control Working Group
ILSMT Integrated Logistics Support Management Team
IOT&E Independent Operational Test and Evaluation
ISP Integrated Support Plan
IV&V Independent Verification and Validation

NOLA New Orleans, Louisiana
NTIA National Telecommunications Information Administration

LIST OF ACRONYMS (Continued)

OT&E Operational Test and Evaluation

PAWSS Ports and Waterways Safety System
PCA Physical Configuration Audit
PMR Project Management Review

RFD Requests for Deviation
RFW Requests for Waiver
RMA Reliability, Maintainability, and Availability
RTM Requirements Traceability Matrix

SATs Site Activation Teams
SCN Specification Change Notice
SDR System Design Review
SE System Engineer
SIC System Integration Contractor
SOW Statement Of Work

TBD To Be Determined
TBS To Be Specified
TMOT Test Management Oversight Team
TSR Telecommunications Service Request

USCG U.S. Coast Guard

VDD Version Description Document
VHF Very High Frequency
VTC Vessel Traffic Center
VTS Vessel Traffic Service
VTSA Vessel Traffic Service Area

APPENDIX B: LIST OF CDRLs

CDRL 001, *Contractor's Management Plan*

CDRL 002, *Program Management Review Documentation:Agenda, Presentation Materials, and Minutes*

CDRL 003, *Monthly Status and Management Progress Report*

CDRL 004, *Site Preparation Requirements and Installation Plan*

CDRL 005, *Design Review Documentation:Agenda, Presentation Materials, and Minutes*

CDRL 006, *Training Materials for DSC/AIS System Operation*

CDRL 007, *Operational Transition Plan*

CDRL 008, *Contractor's Configuration Management Plan*

CDRL 009, *Engineering Change Proposal*

CDRL 010, *Specification Change Notice*

CDRL 011, *Version Description Document*

CDRL 012, *Request for Deviation*

CDRL 013, *Request for Waiver*

CDRL 014, *Configuration Status Accounting Information*

CDRL 015, *Configuration Audit Plan*

CDRL 016, *FCA Configuration Audit Summary Report*

CDRL 017, *PCA Configuration Audit Summary Report*

CDRL 018, *Reliability, Maintainability, and Availability Predictions and Support Analysis*

CDRL 019, *Port/Site Survey Report*

CDRL 020, *Port Specific System Description*

CDRL 021, *Working Group Agenda and Minutes*

CDRL 022, *Interface Control Document*

CDRL 023, *Requirements Traceability Matrix*

CDRL 024, *Communications Network Plan*

CDRL 025, *Telecommunications Service Request*

CDRL 026, *EnvironmentalDocumentation: Eas, EISs, and FONSIs*

CDRL 027, *Remote Site Structure Documentation*

CDRL 028, *Training Plan*

CDRL 029, *Training Manuals*

CDRL 030, *Integrated Support Plan (ISP)*)

CDRL 031, *Planned Maintenance Schedule*

CDRL 032, *Maintenance Transition Plan*

CDRL 033, *Engineering Drawings*

CDRL 034, *System Technical Manual*

CDRL 035, *Equipment Technical Manuals*

CDRL 036, *Software User's Manual*

CDRL 037, *System Performance Report*

CDRL 038, *Quality System Plan*

CDRL 039, Contractor's *Test Plan/Procedures*

CDRL 040, *Test/Inspection Reports*